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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,927	08/04/2003	Ryu Yokoyama	P/1909-163	4959
2352 7590 06/04/2007 OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			EXAMINER DIACOU, ARI M	
			ART UNIT 3663	PAPER NUMBER
			MAIL DATE 06/04/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/633,927	<b>Applicant(s)</b> YOKOYAMA, RYU	
	<b>Examiner</b> Ari M. Diacou	<b>Art Unit</b> 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 11-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. In the remarks filed 2-15-2007, applicant argued the following:
  - A. On pages 14 and 15, that the cited combination does not teach all of the features of the claimed invention.
2. Argument A is moot in view of the new grounds of rejection, which has been necessitated by amendment.
3. While not argued by the applicant, the amendments to the specification filed on 2-15-2007 amount to undoing the amendments that the examiner considered new matter. The specification objections have been withdrawn.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second and fourth paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Subject to the following paragraph, a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers
5. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Regarding claim 14, claim 11 says that spares are **only** provided for a portion of the second pumps, claim 14 says that spares are provided for the first and second pumps. This renders the scope of claim 14 in question.

6. Claim 14 is rejected under 35 U.S.C. 112, fourth paragraph, for failing to limit its parent claim. Claim 14 brings in limitations that are mutually exclusive with its parent claim, therefore failing to limit it.

***Claim Rejections - 35 USC § 103***

7. Claims 11-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Namiki et al. (PGPub No. 2001/0050802) in view of Zarris (PGPub No. 2002/0085268).

- Regarding claims 11, and 16, as best understood by the examiner, Namiki discloses an optical amplification method in an optical transmission system, including a plurality of first light sources for Raman amplification that amplify signal light transmitted in said optical transmission line and a plurality of second light sources for Raman amplification that are disposed at the positions adjoining respective ones of said plurality of first light sources for Raman amplification via said optical transmission line, comprising the steps of:
  - amplifying said signal light by said first and second light sources for Raman amplification; [Fig. 23]

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- transmitting said amplified signal light through said optical transmission line; [Fig. 23]
- detecting a deteriorated state of said signal light amplified by one or more of said first second light sources for Raman amplification; and [¶ 0169]
- restoring said deteriorated signal light to an un-deteriorated state by emitting spare pumping light from at least one of said spare pumping light sources, [¶ 0168]
- said spare pumping light sources being operated only when required to restore deteriorated signal light. [¶ 0169]

But fails to disclose:

Zarris teaches:

- providing one or more spare pumping light sources only in said plurality of second light sources for Raman amplification, [¶ 0007]
- the number of said spare pumping second light sources being less than the number of said first light sources, [¶ 0007]
- a number of said first light sources not having spare pumping light sources, intervening between two of said second light sources spare pumping light sources, being determined by a permissible failure rate of the optical transmission system; [Zarris teaches that there are disadvantages to having all pumps have a backup, both Zarris and Namiki teach that adjacent pumps can pick up the slack for a failed pump, Zarris

teaches that if higher reliability is needed more pumps are needed] [¶  
0007]

Therefore, it would have been obvious to one skilled in the art (e.g. an optical engineer) at the time the invention was made, to add  $m$  spare pumps to the  $n$ -pump array in the device of Namiki, and have  $(n-m)/m$  pumps between each spare, and  $m < n$ , for the advantages of cost and simplification.

- Regarding claims 12, 13 and 15 Namiki discloses [ ¶ 0103]

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Namiki and Zarris as applied to claim 11 above, and further in view of Grubb (PGPub No. 2002/0067539). Claim 16 is the same as claim 11 with the exception that 16 does not require all pumps to appear in the same amplifier node (see preamble). Namiki and Zarris discloses the invention with all the limitations of claim 11, but fail to disclose pumping from a plurality of amplifier nodes. Grubb teaches tha pumping "can be spead over a number of amplifiers in the system." [0019] Therefore, it would have been obvious to one skilled in the art (e.g. an optical engineer) at the time the invention was made, to account for redundancy over the entire Raman transmission system, for the advantage of reduced cost.

### ***Conclusion***

9. The references made herein are done so for the convenience of the applicant. They are in no way intended to be limiting. The prior art should be considered in its entirety.

10. The prior art which is cited but not relied upon is considered pertinent to applicant's disclosure.

11. As to limitations which are considered to be inherent in a reference, note the case law of In re Ludtke, 169 U.S.P.Q. 563; In re Swinehart, 169 U.S.P.Q. 226; In re Fitzgerald, 205 U.S.P.Q. 594; In re Best et al, 195 U.S.P.Q. 430; and In re Brown, 173 U.S.P.Q. 685, 688.

12. While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ari M. Diacou whose telephone number is (571) 272-5591. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Ari M. Diacou/

5/29/2007

  
JACK KEITH  
SUPERVISORY PATENT EXAMINER